Action Plan

For the Protection and Management of

Durham Vegetated Tidal Marshes

June 1995

Strafford Regional Planning Commission
259 County Farm Road
Dover, NH 03820

and

The Durham Conservation Commission
15 Newmarket Road
Durham, NH 03824

Strafford Regional Planning Commission
Seacoast MPO

n of this document and the *Durham Coastal Method Inventory and Evaluation* were supported in part by a grant from the Office of State Planning, New astal Program, as authorized by the National Oceanic and Atmospheric (NOAA), Grant No. NA47OZ0237.

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Introduction

The *Action Plan for the Protection and Management of the Durham Vegetated Tidal Marshes* is a result of the *Durham Coastal Method Inventory and Evaluation Project*, June 1995, prepared by the Strafford Regional Planning Commission.

Copies of the *Project* report were distributed to Town Conservation Commissioners and a few outside wetlands experts. A meeting was held a couple of weeks later with the intention of assigning specific tasks to specific people. The agenda for the meeting and the results of the meeting are presented in this report. The Action Plan Table is a summary of the meeting notes which relates tasks which were identified as important in the near future and people or agencies which will be responsible for those tasks.

The Durham Conservation Commission is the main contact for all action plans concerning the vegetated tidal marshes in the Town.

PLAN OF ACTION	CONTACT PERSON/AGENCY
Pollution/bacterial analysis of Beard's Creek.	Durham Public Works and the State Department of Environmental Services
Town wide mailing on how to maintain septic systems.	Durham Public Works and the Conservation Commission
Produce a map of the public sewer lines overlaid with roads and waterbodies.	Strafford Regional Planning Commission
Feasibility analysis on whether or not to remove the flashboards under Route 108.	Hire a consultant.
Invasive species monitoring: photo-monitoring, in-ground stakes, and measurements on Systems 1, 2, 12 and 13.	Conservation Commission
Application of Rodeo (herbicide) on Phragmites at System 1 (Johnson Creek).	Conservation Commission
Continue pursuit of easements.	Nature Conservancy; Conservation Commission; Natural Resources Conservation Service.
More stringent protection of tidal marshes through the Durham Shoreland Protection Ordinance.	Conservation Commission
Mailing to abutters of tidal marshes to educate about the resource and to encourage volunteerism to protect the resource.	Conservation Commission
Identify abutters of Marsh Systems 1, 2, 6, 12 and 13.	Strafford Regional Planning Commission/ Alan Ammann may assist
Protection flags/signs/trash bags at Systems 1, 2, 6, 12 and 13.	Ann Marie Harris, Planning Board/Conservation Commission
Trash clean up at Systems 7 (Scammel Bridge South) and 10 (Durham Point).	Conservation Commission
Ideas for interpretive signs to be placed at System 5.	Richard Cook, Audubon Society, will contact Peter Wellenberger, NH Fish and Game
Monitor Wagon Hill Development Plan and advocate protection of the System 6 tidal Marsh.	Theresa Walker, Conservation Commission
Plan a festival of the salt marshes for education and appreciation of the Durham tidal marshes.	David Funk, Theresa Walker, Conservation Commission; Larry Flint, Recreation Advocate
Work with the State to develop interpretive trails at Marsh System 12 and 13 (Adams Point).	Conservation Commission and Larry Flint
Create the "Durham Salt Marsh Reserve" at System 5 (Jackson Landing area).	David Funk and Larry Flint
Reevaluate the Elite Systems (1, 2, 6, 12 and 13) yearly; and all others every other year.	Conservation Commission

Agenda
Durham Coastal Method Project
Action Plan for Vegetated Tidal Marshes

I. Questions/problems/ideas regarding the results in the report?

II. Management for Problem Areas:

A. Marsh System 4 (Beard's Creek)

Complete restriction of tidal flow. What are the issues? What should be done?

B. Overall Invasive Species Management:

Marsh Systems 1, 2, 3, 4, 5, 6, 7, 9, 12, 13 have some degree of invasive species. Can we put this problem in perspective? What is the overall strategy for control? (Systems 1, 2, 12 and 13 are Noteworthy)

III. Red Flag Areas, how do we manage these "elites"?

A. The **Noteworthy** Systems (5 Systems or 8 Evaluation Units):

Marsh System 1 (both EUs) (Johnson Creek North and South)

Marsh System 2 (both EUs) (Bunker Creek North and South)

Marsh System 8 (Horsehide Brook)

Marsh System 12 (North of Adams Point)

Marsh System 13 (both EUs) (Adams Point East and West)

B. The Marsh System with the most high scores:

Marsh System 6 (Wagon Hill)

IV. What can we do with the Marsh Systems with the highest recreation and education values:

Marsh System 5, 6, 12, and 13.1 (Systems 12 and 13 are Noteworthy)

V. Lets not forget about the rest:

Marsh Systems 3, 7, 9, 10 and 11

Meeting Notes

I. Questions/Problems/ideas regarding the results in the report?

- **It was remarked that the "Options" (A through E) provided by the Coastal Method seemed "sort of canned" and did not add much value to the report.**

- **It was commented that Marsh System 8 is not a habitat for threatened and endangered species and until it can be verified it should be removed from the "elite" status.**

- **Strafford Regional Planning Commission will produce a map of the tidal marsh system boundaries at a 1:24,000 scale for the Durham Conservation Commission to use with a point location map of threatened and endangered species. (Paid for by the Durham Conservation Commission.)**

II. Management for Problem Areas:

A. Marsh System 4 (Beard's Creek)

- **Sources of pollution (especially fecal coliform) need to be identified (i.e. urban runoff, sewer pipe, septic systems, swans, etc.) and the Town may decide to call in Department of Environmental Services to conduct an analysis. The Town Health Officer should also become involved in this analysis.**

- **The Durham Public Works Department (Skip) needs to be instrumental in getting a source pollution analysis completed on Beard's Creek. When the Public Works Department draws down Beards Creek for weed control, an engineer should review the sewer pipe situation.**

- **The Durham Public Works Department should coordinate a town wide mailing on maintenance of septic systems.**

- **A map of the public sewer lines, overlaid with roads and waterbodies will be provided to the Town of Durham by the Strafford Regional Planning Commission. (At no charge).**

- **Consider hiring a consultant to conduct a feasibility analysis to weigh the factors on whether or not to remove the flashboards under Route 108 to restore the salt marsh.**

- **There was some disagreement about removing the flashboards under Route 108 because it is used for recreation and the abuttors may also object to the odor of the salt marsh.**

B. Overall Invasive Species Management:

- **Conservation Commission will do photo-monitoring on Marsh Systems 1, 2, 12, and 13 yearly, beginning this year in the late summer. They will also mark the growth with in-ground stakes and measure the area yearly. It was suggested that in the photos, a person stand in the same spot each year, so the pictures will show how the growth is encompassing the area.**

- **If the invasive plant species begin to interfere with the integrity of the area, experts should be called in to evaluate the problem. Options may include: wick application of Rodeo (cutting off the tips of the plant and applying the chemical to the stalk of the plant); State control with pesticides; clipping seed heads.**

- **Conservation Commission will try Rodeo on phragmites at System 1, Johnson Creek.**

- **In the future, the Conservation Commission may want to measure salinity along Johnson and Bunker Creeks. (If the salinity becomes low, ditching or diversion of fresh water may be necessary.) Alan Ammann, Natural Resources Conservation Service, agreed to assist the Town with this.**

III. Red Flag Areas, how do we manage these "elites"? (Systems 1, 2, 12, 13 for Noteworthiness and System 6 for the most high scores.)

- **Easements: (1) through the Town; (2) through the Nature Conservancy; (3) through the Natural Resources Conservation Service, agricultural rights only, and restoration. Note: The Nature Conservancy is in the process of purchasing easements along Johnson Creek - contact Bob Miller for more information.**

- **Revisions in progress on the Durham Shoreland Protection Ordinance will more adequately protect the tidal marshes.**

- **A Management Protection Agreement was discussed which would encouraged abuttors to protect the tidal marshes. The Conservation Commission will send information regarding the tidal marshes (and possible some of the results of the Coastal Method Evaluation Project) to abuttors and ask them to agree to help protect the tidal marsh.**

- **The Conservation Commission would like Strafford Regional Planning Commission to identify abuttors on the elite systems (1, 2, 6, 12 and 13).**

- **The Conservation Commission will mark the elite systems with either Protection Flags with an explanation of the resource and its value; or signs with trash bags and explanations about the sensitivity of the area, etc. Ann Marie Harris, Planning Board representative on the Conservation Commission, agreed to follow up on this.**

- It was noted that if trash bags are provided than trash barrels may be necessary and that would require constant monitoring. It was agreed that it may be better to ask people to carry out their garbage in the bag provided, and that the bags may encourage others to clean up litter while they are at the site.

- Trash clean up will be arranged yearly by the Conservation Commission; this year Systems 7 (Scammel Bridge South) and 10 (Durham Point) require trash clean up.

- Great Bay Focus Group is in the process of protecting Johnson Creek.

- According to Alan Ammann, the Natural Resources Conservation Service may fund the task of identifying landowners to inquire about easement purchases along the elite systems.

- The Conservation Commission would like to permission access to tidal marsh from landowners, this should be done after the tidal marsh landowners and abutters list is created. This permission will allow them the ability to reevaluated and monitor.

- Access to Systems 12 and 13 (Adams Point) can be made through State Fish and Game property.

- Richard Cook, Audubon Society of New Hampshire, agreed to contact Peter Wellenberger, Reserve Manager for Fish and Game Region 3, for interpretive signs.

B. The Marsh System with the most high scores: Marsh System 6 (Wagon Hill)

- Theresa Walker, Conservation Commissioner, will monitor the Wagon Hill Development Plan and advocate protection of the System 6 tidal marsh. There should also be a plan to educate about the tidal marshes and celebrate at an annual festival at Wagon Hill. David Funk, Chairman of the Conservation Commission, was given an article written by Professor Robert LeBlanc, UNH, on the history of salt marshes, possibly to be used as a resource in developing ideas for the festival of salt marshes.

IV. What can we do with the Marsh Systems with the highest recreation and education values:

- At Marsh Systems 12 and 13 (Adams Point areas) the Conservation Commission will attempt to work with the State to do interpretive trails.

- Marsh System 5 (Jackson Landing, etc.) Larry Flint, Durham Recreation Advocate, said the Town is working on beautification of the site. He agreed to investigate signage and education materials to be place at the site with regards to the Marsh.

- It was suggested that at System 5, because of its central location and easy access, the salt marsh should be named the, "Durham Salt Marsh Reserve", and be roped off and education materials made available. Larry Flint and David Funk agreed to follow up on this suggestion.

V. Lets not forget about the rest: (Marsh Systems 3, 7, 9, 10 and 11)

- It was unanimously decided that there was enough work to do in the near future with the elite systems and that these remaining systems could be monitored and reevaluated in the next few years.

Ending Remarks:

- The Conservation Commission should reevaluated the elite systems every year and Strafford Regional Planning Commission (for a nominal fee) would update the data base.

- The Conservation Commission should continue to discuss removing the flashboards under Route 108 to restore the salt marsh (System 4). Salt marshes are such a rare resource that whenever restoration is possible, it should be done.

- Alan Ammann and Richard Cook have slide shows and materials which may be used for education on the values of salt marshes.

Durham Coastal Method Results

Name: Marsh System 1 EU 1
Common Name: Johnson Creek South
Type of Marsh: Estuarine Meadow
Acreage: 14.1 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.40
2	Shoreline Anchoring	0.50
3	Storm Surge Protection	0.50
4	Wildlife, Finfish and Shellfish Habitat	0.71
5	Water Quality Maintenance	0.83
6	Recreational Potential	0.56
7	Aesthetic Quality	0.62
8	Educational Potential	0.57
9	Noteworthiness	0.28

Name: Marsh System 1 EU 2
Common Name: Johnson Creek North
Type of Marsh: Estuarine Meadow
Acreage: 19.5 AC
Status: Tidal
Tidal Restriction: Rte. 4 Bridge

1A	Ecological Integrity Part A	0.75
1B	Ecological Integrity Part B	0.75
2	Shoreline Anchoring	0.63
3	Storm Surge Protection	0.50
4	Wildlife, Finfish and Shellfish Habitat	0.75
5	Water Quality Maintenance	0.50
6	Recreational Potential	0.34
7	Aesthetic Quality	0.79
8	Educational Potential	0.38
9	Noteworthiness	0.46

Name: Marsh System 2 EU 1
Common Name: Bunker Creek South
Type of Marsh: Estuarine Fringe
Acreage: 2.5 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.20
2	Shoreline Anchoring	0.65
3	Storm Surge Protection	0.10
4	Wildlife, Finfish and Shellfish Habitat	0.41
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.25
7	Aesthetic Quality	0.59
8	Educational Potential	0.22
9	Noteworthiness	0.28

Name: Marsh System 2 EU 2
Common Name: Bunker Creek North
Type of Marsh: Estuarine Meadow
Acreage: 10.0 AC
Status: Tidal
Tidal Restriction: Rte. 4 Bridge

1A	Ecological Integrity Part A	0.70
1B	Ecological Integrity Part B	0.40
2	Shoreline Anchoring	0.50
3	Storm Surge Protection	0.50
4	Wildlife, Finfish and Shellfish Habitat	0.66
5	Water Quality Maintenance	0.43
6	Recreational Potential	0.44
7	Aesthetic Quality	0.55
8	Educational Potential	0.34
9	Noteworthiness	0.28

High scores are > 0.6; except for Noteworthiness which is > 0.1

Durham Coastal Method Results

Name: Marsh System 3
Common Name: Scammel Bridge North
Type of Marsh: Estuarine Meadow/Fringe
Acreage: 20.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.30
2	Shoreline Anchoring	0.78
3	Storm Surge Protection	0.43
4	Wildlife, Finfish and Shellfish Habitat	0.60
5	Water Quality Maintenance	0.83
6	Recreational Potential	0.55
7	Aesthetic Quality	0.66
8	Educational Potential	0.55
9	Noteworthiness	0.10

Name: Marsh System 4 EU 1
Common Name: Beards Creek A
Type of Marsh: Estuarine Meadow
Acreage: 15.5 AC
Status: Formerly Tidal
Tidal Restriction: Rte. 108 flash boards

1A	Ecological Integrity Part A	0.43
1B	Ecological Integrity Part B	0.30
2	Shoreline Anchoring	0.30
3	Storm Surge Protection	0.75
4	Wildlife, Finfish and Shellfish Habitat	0.45
5	Water Quality Maintenance	0.37
6	Recreational Potential	0.53
7	Aesthetic Quality	0.50
8	Educational Potential	0.51
9	Noteworthiness	0.10

Name: Marsh System 4 EU2
Common Name: Beard's Creek B
Type of Marsh: Estuarine Meadow
Acreage: 0.3 AC
Status: Formerly Tidal
Tidal Restriction: Coe Drive

1A	Ecological Integrity Part A	0.43
1B	Ecological Integrity Part B	0.30
2	Shoreline Anchoring	0.30
3	Storm Surge Protection	0.75
4	Wildlife, Finfish and Shellfish Habitat	0.45
5	Water Quality Maintenance	0.37
6	Recreational Potential	0.53
7	Aesthetic Quality	0.50
8	Educational Potential	0.51
9	Noteworthiness	0.10

Name: Marsh System 5
Common Name: Jackson Landing
Type of Marsh: Estuarine Fringe
Acreage: 41.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.43
2	Shoreline Anchoring	0.75
3	Storm Surge Protection	0.30
4	Wildlife, Finfish and Shellfish Habitat	0.71
5	Water Quality Maintenance	0.83
6	Recreational Potential	0.79
7	Aesthetic Quality	0.58
8	Educational Potential	0.79
9	Noteworthiness	0.10

High scores are > 0.6; except for Noteworthiness which is > 0.1

Durham Coastal Method Results

Name: Marsh System 6
Common Name: Smith Creek/Wagon Hill
Type of Marsh: Estuarine Fringe
Acreage: 9.5 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	1.00
2	Shoreline Anchoring	0.70
3	Storm Surge Protection	0.10
4	Wildlife, Finfish and Shellfish Habitat	0.73
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.57
7	Aesthetic Quality	0.87
8	Educational Potential	0.79
9	Noteworthiness	0.10

Name: Marsh System 7
Common Name: Scammel Bridge South
Type of Marsh: Estuarine Fringe
Acreage: 3.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.15
2	Shoreline Anchoring	0.75
3	Storm Surge Protection	0.10
4	Wildlife, Finfish and Shellfish Habitat	0.47
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.53
7	Aesthetic Quality	0.53
8	Educational Potential	0.38
9	Noteworthiness	0.10

Name: Marsh System 8
Common Name: Horsehide Brook
Type of Marsh: Estuarine Meadow
Acreage: 20.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.46
2	Shoreline Anchoring	0.63
3	Storm Surge Protection	0.50
4	Wildlife, Finfish and Shellfish Habitat	0.59
5	Water Quality Maintenance	0.83
6	Recreational Potential	0.32
7	Aesthetic Quality	0.76
8	Educational Potential	0.18
9	Noteworthiness	0.28

Name: Marsh System 9
Common Name: Deer Point
Type of Marsh: Estuarine Fringe
Acreage: 4.7 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.63
2	Shoreline Anchoring	1.00
3	Storm Surge Protection	0.10
4	Wildlife, Finfish and Shellfish Habitat	0.67
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.43
7	Aesthetic Quality	0.82
8	Educational Potential	0.48
9	Noteworthiness	0.10

High scores are > 0.6; except for Noteworthiness which is > 0.1

Name: Marsh System 10
Common Name: Durham Point
Type of Marsh: Estuarine Fringe; some meadow
Acreage: 4.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.53
2	Shoreline Anchoring	0.78
3	Storm Surge Protection	0.15
4	Wildlife, Finfish and Shellfish Habitat	0.47
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.26
7	Aesthetic Quality	0.73
8	Educational Potential	0.38
9	Noteworthiness	0.10

Name: Marsh System 11
Common Name: Little Bay
Type of Marsh: Estuarine Fringe
Acreage: 7.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.65
2	Shoreline Anchoring	0.75
3	Storm Surge Protection	0.10
4	Wildlife, Finfish and Shellfish Habitat	0.47
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.53
7	Aesthetic Quality	0.66
8	Educational Potential	0.38
9	Noteworthiness	0.10

Name: Marsh System 12
Common Name:
Type of Marsh: Estuarine Meadow
Acreage: 8.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.88
2	Shoreline Anchoring	0.50
3	Storm Surge Protection	0.30
4	Wildlife, Finfish and Shellfish Habitat	0.73
5	Water Quality Maintenance	0.70
6	Recreational Potential	0.75
7	Aesthetic Quality	0.95
8	Educational Potential	0.62
9	Noteworthiness	0.82

Name: Marsh System 13 EU1
Common Name: Crommet Creek East
Type of Marsh: Estuarine Fringe
Acreage: 40.0 AC
Status: Tidal
Tidal Restriction: None

1A	Ecological Integrity Part A	1.00
1B	Ecological Integrity Part B	0.63
2	Shoreline Anchoring	0.75
3	Storm Surge Protection	0.30
4	Wildlife, Finfish and Shellfish Habitat	0.73
5	Water Quality Maintenance	0.83
6	Recreational Potential	0.73
7	Aesthetic Quality	0.87
8	Educational Potential	0.68
9	Noteworthiness	0.46

High scores are > 0.6; except for Noteworthiness which is > 0.1

Durham Coastal Method Results

Name: Marsh System 13 EU 2
Common Name: Crommet Creek West
Type of Marsh: Estuarine Meadow
Acreage: 10.0 AC
Status: Tidal
Tidal Restriction: Durham Point Road Bridge

1A	Ecological Integrity Part A	0.70
1B	Ecological Integrity Part B	0.88
2	Shoreline Anchoring	0.50
3	Storm Surge Protection	0.50
4	Wildlife, Finfish and Shellfish Habitat	0.59
5	Water Quality Maintenance	0.43
6	Recreational Potential	0.37
7	Aesthetic Quality	0.88
8	Educational Potential	0.31
9	Noteworthiness	0.28

High scores are > 0.6; except for Noteworthiness which is > 0.1

Durham Coastal Method Project

Action Plan for the Management of Vegetated Tidal Marshes

June 15, 1995

4:00 - 5:30 PM

Meeting at Environmental Hazards Management Institute (across the street from the Durham Town Offices).

Estuarine Meadow Marsh
Johnsons Creek in Durham